

CLAIMS

1. An underwater discharge core comprises:
a frame having a rectangle opening,
a first platinum plate mesh made of conductive material for
5 mounting to said frame,
an insulation plate meshes disposed over said first platinum
plate meshes,
a second platinum plate mesh made of conductive material
overlapped said insulation plate meshes and first platinum plate
10 meshes.

2. An underwater discharge core as claimed in claim 1,
wherein said first platinum plate mesh and second platinum plate
mesh mounted on the frame are arranged to misalign square meshes.

3. An underwater discharge core as claimed in claim 2,
15 wherein said first platinum plate mesh and second platinum plate
mesh have a plurality of uniform minute square meshes, and the
projected square meshes of said first and second platinum plate
meshes have clearance one-half of said square meshes.

4. An underwater discharge core as claimed in claim 1,
20 wherein said insulation plate meshes is disposed between said
first platinum plate mesh and second platinum plate mesh.

5. An underwater discharge core as claimed in claim 1,
further comprises that at least one side of said frame has a
plurality of protrusions for mounting said first platinum plate
25 mesh, insulation plate and second platinum plate mesh.

6. An underwater discharge core as claimed in claim 1,
further comprises that at least one pair of retainer and retainer
clip is installed to fix said first platinum plate mesh,
insulation plate and second platinum plate on the frame.

30 7. An underwater discharge core as claimed in claim 1,
wherein said first platinum plate and second platinum plate have

a plurality of drilled holes at center section to mate with protrusions of said frame, both end sections of the first platinum plate and second platinum plate have a plurality of drilled holes to mate with the drilled holes of said frame for installing a
5 retainer and an extended wire formed at a corner of end sections for electrical connection.

8. An underwater discharge core as claimed in claim 7, wherein said insulation plate has a plurality of drilled holes at center section to mate with protrusions of said frame, both
10 end sections of said insulation plate have a plurality of drilled holes mated with the drilled holes of said frame for installing a retainer.

9. An underwater discharge core as claimed in claim 8, further comprises that at least one member of said frame forms
15 a plurality of drilled holes to mate with a plurality of drilled holes at both end sections of said first platinum plate, second platinum plate and the insulation plate for installing said retainer.

10. An underwater discharge core as claimed in claim 9, wherein said frame has a pair of supporting legs which are
20 integrally extended from side members with a pair of drilled hole for inserting extended wires.

11. An underwater discharge core as claimed in claim 10, wherein said frame has a first member having a plurality of
25 protrusions, second member having a plurality of drilled holes to mate with a plurality of drilled holes at both end sections of said first platinum plate, second platinum plate and insulation plate for installing said retainer.

12. An underwater discharge core as claimed in claim 11, wherein said frame has a third member having a plurality of
30 protrusions, fourth member having a plurality of drilled holes to mate with a plurality of drilled holes at both end sections of said first platinum plate, second platinum plate and insulation

plate for installing said retainer.

13. An underwater discharge core as claimed one of claim 1 to claim 12, wherein said first platinum plate mesh and second platinum plate mesh are made of the platinum group, solid Iridium,
5 solid platinum plated Iridium or plated platinum.

14. An underwater discharge core as claimed in claim 13, wherein said first platinum plate mesh and second platinum plate mesh are produced by the die forging process.

15. A sterilized water generator comprises:

10 a container filled with water,

an underwater discharging core consisted of a rectangular-shape frame, a first and second platinum plate meshes made of conductive material, an insulation plate made of non-conductive material installed on the frame,

15 said container installed at least one underwater discharging core, and

a power supply unit and control system for supplying power to say first and second platinum plate mesh cells to perform underwater discharge.

20 16. A sterilized water generator as claimed in claim 15, wherein said container is used as a water storage tank.

17. A sterilized water generator as claimed in claim 15, wherein said container is a water flow pipeline.

25 18. A sterilized water generator as claimed in claim 15, further comprises:

a thermal sensor installed inside of the container for sensing operating water temperature, and

a control system to cut off the power to the underwater discharging core for preventing overheating the system based on
30 the sensed operating water temperature.

19. A sterilized water generator as claimed one of claim 15 to claim 18, wherein said first platinum plate mesh and second platinum plate mesh are made of the platinum group, solid Iridium,

solid platinum plated Iridium or plated platinum.

20. A sterilized water generator as claimed in claim 19, wherein said underwater discharge unit adopts the power supply and control system that is alternative supplied the positive
5 voltage (+V) to one terminal and the negative voltage (-V) to the other terminal of said first platinum plate mesh and second platinum plate mesh.

21. A sterilized water generator as claimed in claim 20, wherein said alternative power supply and control system has
10 0.5~15 minute intervals.

22. A sterilized water supplying system comprises:

a sterilized water generator consisted of at least one underwater discharge core equipped with an alternative power supply and control system for alternatively supplying power to
15 a set of positive and negative terminals of platinum plate meshes, a water storage tank for storing the produced sterilized water,

a filtration unit for filtering the foreign objects from the supplied water, and

20 a power source/controlling unit for controlling the sterilized water generator.

23. A sterilized water supplying system as claimed in claim 22, further comprises a water pump disposed between the filtration unit and the sterilized water generator.

25 24. A sterilized water supplying system as claimed in claim 23, further comprises a first valve for controlling the water supply to the system by the power source/controlling unit, a second valve disposed between the sterilized water generator and the water storage tank to allow water flow one direction.

30 25. A sterilized water supplying system as claimed in claim 23, further comprises a thermal sensor installed inside the sterilized water generator for sensing the operating water temperature to prevent overheating the system.

26. A sterilized water supplying system as claimed in claim 23, further comprises a third valve controlled by the controlling unit for supplying the water to system, and a sensor installed inside of the water storage tank for sensing the water level.

27. A sterilized water supplying system as claimed in claim 26, further comprises a third valve controlled by the controlling unit for supplying the water to the water storage tank, and a sensor installed inside of the water storage tank for sensing the water level.

28. A sterilized water supplying system as claimed in claim 27, further comprises a closed water circulation system controlled by the controlling unit to produce the sterilized water through from the water storage tank, filtration unit, water pump, sterilized water generator, and second valve.

29. A sterilized water supplying system as claimed in claim 23, further comprises a sensor installed inside of the water storage tank for sensing the water level and a third valve controlled by the controlling unit for supplying the water to the sterilized water generator through the filtration unit.

30. A sterilized water supplying system as claimed in claim 29, further comprises a third valve controlled by the controlling unit based on the sensed signal of the water level of the storage tank to supply the water to the sterilized water generator through the filtration unit.

31. A sterilized water supplying system as claimed in claim 29, further comprises the controlling unit controls not to supply the water through a first valve.

32. A sterilized water supplying system as claimed in claim 31, further comprises a third valve controlled by the controlling unit based on the sensed signal of the water level of the storage tank to supply the water to the sterilized water generator through the filtration unit during the blocking of the

first valve.

33. A sterilized water supplying system as claimed in claim 32, wherein a closed water circulating interval that the water flows through the storage tank, filtration unit, water pump, 5 sterilized water generator, and second valve is preset for producing the sterilized water.

34. A sterilized water supplying system as claimed in claim 32, further comprises a vent for discharging gases from the water storage tank.

10 35. A sterilized water supplying system as claimed in claim 34, wherein said sterilized water generator consisted of a rectangular-shape frame, a first and second platinum plate meshes made of conductive material, an insulation plate made of non-conductive material installed on the frame.

15 36. A sterilized water supplying system as claimed one of claim 22 through claim 34, wherein said sterilized water generator adopts the power supply and control system that is alternative supplied the positive voltage (+V) to one terminal and the negative voltage (-V) to the other terminal of said first platinum 20 plate mesh and second platinum plate mesh.

37. A sterilized water supplying system as claimed in claim 36, wherein said alternative power supply and control system has 0.5~15 minute intervals.

25 38. An underwater discharge core comprises:
a frame having a rectangular opening,
a first platinum plate mesh made of conductive material for mounting to said frame to allow water flow, and
a second platinum plate mesh made of conductive material for mounting opposite to said first platinum plate meshes to said 30 frame and allowing water flow.

39. An underwater discharge core as claimed in claim 38, wherein said first platinum plate mesh and second platinum plate mesh mounted on the frame are arranged to misalign square meshes.

40. An underwater discharge core as claimed in claim 39, wherein said first platinum plate mesh and second platinum plate mesh have a plurality of uniform minute square meshes, and the projected square meshes of said first and second platinum plate meshes have clearance one-fourth overlapped of said square meshes.

41. An underwater discharge core as claimed in claim 38, further comprises that at least one pair of retainer and retainer clip is installed to fix said first platinum plate mesh and second platinum plate on the frame.

10 42. An underwater discharge core comprises:
a frame having a rectangular opening,
a first platinum plated mesh with X-axis or horizontal strip bars and strip liners made of plated conductive material for mounting on said frame to allow water flow, and
15 a second platinum plated mesh with Y-axis or vertical strip bars and strip liners made of plated conductive material for mounting opposite to said first platinum plated meshes on said frame and allowing water flow.

43. An underwater discharge core as claimed in claim 42, wherein said first platinum plated mesh and second platinum plated mesh are made of the plated platinum group, plated Iridium or plated platinum.

44. An underwater discharge core as claimed in claim 42, further comprises that at least one pair of retainer and retainer clip is installed to fix said first platinum plated mesh and second platinum plated on the frame.